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Pent-Up Demand for Health Care Services Among the Newly Insured

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Executive Summary

The findings presented here will provide a foundation for HCG's internal product development and benefit modeling efforts. This paper presents a synthesis of the research on the health care utilization patterns of the newly insured, including empirical evidence for and against pent-up demand and adverse selection (a situation where enrollees use more services than anticipated by the insurer), as well as research findings on the utilization of health care by the newly insured.

Influence of Health Insurance on Health Care Utilization and Outcomes

- The uninsured use less health care than the insured.
- Uninsured persons use health care services less efficiently than insured individuals.
- Uninsured individuals have poorer health outcomes than insured persons.

Health Care Utilization Among the Newly Insured

- There is some debate in the literature as to whether the newly insured have pent-up demand for medical care, as evidenced by greater use of services in the early months following coverage.
- The newly insured use health care more appropriately and efficiently than they did when they were uninsured, e.g., fewer emergency room visits, more preventive care.
- The health care utilization of the newly insured varies by race.
- There is little evidence that public program expansions lead to adverse selection.

Conclusions

- There are conflicting findings on the existence of pent-up demand among the uninsured.
- There is general agreement that greater health care utilization among newly enrolled previously uninsured individuals lasts only for a short time.
- Health care dollars are used more efficiently as a result of increased access to preventive care and less subsequent need for emergency services.

- Analysts should consider how many enrollees have chronic conditions and how many have been without coverage for multiple years when modeling costs.

Introduction

Historically, Arizona's employer-sponsored coverage rate has been lower than that of the nation as a whole.[1] One of the factors driving Arizona's lower rate of employer-sponsored coverage is that most of its employers are small businesses with less than 50 employees, who typically have difficulty finding affordable health coverage options.[2]

Healthcare Group of Arizona (HCG), a division of the Arizona Health Care Cost Containment System (AHCCCS), was created to provide affordable and accessible health care coverage to political subdivisions and to small businesses with 50 or fewer employees in the State of Arizona. HCG is currently in the process of redesigning its group benefit offerings. Several new products with benefit designs created within current legislative rule and authority were made available to employers and employees through HCG health plans in the spring of 2004 and August 2005.

To appropriately price their new group products HCG administrators must model the utilization of the newly covered, evaluate financial risks to the state, and project future program growth. This is a difficult task given the diversity of the uninsured population, which includes both the relatively young and healthy populations (low users of health care services) and the less healthy populations (high users of health care services).[3]

A key uncertainty for HCG as it manages its new benefit packages is the level of pent-up demand for health care services among its target population, the working uninsured. Policy makers and health plan administrators are concerned that providing insurance to this population will trigger heavier use of services by the newly insured whose health problems have gone untreated due to uninsurance. These issues have a direct impact on the setting of premiums, the design of benefit plans and the development of adequate delivery networks.

The findings presented here will provide a foundation for HCG's internal modeling efforts. This paper presents a synthesis of the research on the health care utilization patterns of the newly insured, including empirical evidence for and against pent-up demand and adverse selection (a situation where enrollees use more services than anticipated by the insurer), as well as information on the utilization of health care by the newly insured.

The Influence of Health Insurance on Health Care Utilization and Outcomes

- ***The uninsured use less health care than the insured.***

Numerous studies have documented that uninsured persons use less health care than those with health insurance.[4,5] Overall uninsured persons have less contact with medical providers, less use of prescription drugs, fewer ambulatory visits, and fewer hospitalizations than the insured.[6,7] Uninsured adults are less likely to receive cardiac procedures (e.g., coronary artery bypass graft and angioplasty), and uninsured women are less likely to receive routine primary care such as mammograms and pap smears.[8]

Uninsured children are less likely than their insured counterparts to comply with American Academy of Pediatrics guidelines for well-child visits or to seek medical care when they are sick.[9] They are also less likely than insured children to see a physician for common child ailments such as acute earache, recurrent ear infections or asthma.[10] Overall, uninsured children have fewer physician contacts and lower immunization rates.[11,12,13]

- ***Uninsured persons use health care services less efficiently than insured individuals.***

When uninsured individuals obtain care, they often receive it in an inefficient manner. Because uninsured persons are more likely to delay seeking care, they present at medical facilities with more advanced stages of disease.[13,14] Recent analysis of National Health Interview Survey (NHIS) data suggests that nearly half of all uninsured, non-elderly individuals have a chronic condition and are likely to delay needed medical care due to cost.[15,16]

The uninsured are also less likely to have a usual clinic or provider; they are less apt to receive preventive care; the continuity of their care is not as good as their insured counterparts; and they are more prone to unnecessary progression of disease and illness.[17,18,19, 9]

Research has shown that the uninsured have higher rates of avoidable hospitalizations (AVH)[20,21] which are broadly defined as a hospital admissions that would not have occurred had the patient received effective, timely and continuous ambulatory care. Examples of AVH's include hospitalizations for immunizable conditions, asthma, gastroenteritis, dehydration, ENT conditions,

and kidney/bladder infections. There is some evidence that provision of insurance will reduce avoidable hospitalizations:[22,23] Dafny and Gruber found that the rate of AVH for children decreased by 22% following Medicaid expansions, suggesting that the provision of health insurance leads to more efficient use of resources.

Lastly, the uninsured are more likely to seek medical care from emergency departments.[18] This is a costly and inefficient means of accessing services that contributes to hospitals' uncompensated care costs and strains on the safety net.

- ***Uninsured individuals have poorer health outcomes than insured persons.***

Research has shown that the uninsured are more likely to rate their own health status as fair or poor; and are more likely to experience adverse health outcomes.[24,25,26,27] Uninsured children identified in the National Medical Expenditure Survey (NMES) reported significantly worse health status than insured children;[28] and research has shown that adults who lose their health insurance coverage are at increased risk for a major decline in health in comparison to adults with continuous private coverage.[29]

Entry into the health care system does not make up for the lack of preventive care and access to services experienced by the uninsured. Evidence of higher mortality rates among sick and hospitalized uninsured patients has been found in numerous studies. Uninsured breast cancer and bladder cancer patients have been found to have lower survival rates and higher adjusted risk of death.[30,31] Uninsured acute trauma patients are more likely to die and less likely to receive surgery, physical therapy and care in an intensive care unit than insured patients.[19] Uninsured persons surveyed through the National Health and Nutrition Examination Survey (NHANES) were found to have higher mortality rates than insured persons; even when rates were adjusted for sociodemographic, lifestyle, and health status variables.[26] In addition, uninsured patients have been found to have a higher risk of in-hospital mortality.[19,32]

Health Care Utilization Among the Newly Insured

Because uninsured individuals use less health care and have poorer health status, there is a concern that when they obtain coverage the newly insured will be more costly to care for due to pent-up demand. The following section presents evidence from the literature about potential pent-up demand for health care

among the newly insured, and the extent to which it may result in increased health care spending.

- ***There is some debate in the literature as to whether the newly insured have pent-up demand for medical care, as evidenced by greater use of services in the early months following coverage.***

A customary indicator of pent-up demand is high service utilization in the first few months after becoming insured. Medicaid expansion programs, such as the State Children's Health Insurance Program (SCHIP), provide a natural experiment by which health services utilization among the newly insured can be observed. Studies of children in the Western Pennsylvania's Children's Health Insurance Program found that overall utilization rates were highest in the first four months of coverage, and that insurance led to an increase in the number of children having physician and dental visits. [33,34] Similarly, a study of Colorado's CHIP program showed that in comparison to the period before enrollment, children had increased outpatient visits.[35]

The Pennsylvania studies found that children who had been uninsured for longer periods of time accounted for most of the increase in utilization observed in the first month of coverage. This finding suggests that there is some pent-up demand for services and that children with long periods of uninsurance will likely cost more than those who have recently lost coverage. [34, 35]

Increases in health care utilization have been found among newly insured adults as well as children. Using data from the 1987 NMES, Hahn (1994) found that extending private coverage to the uninsured would lead to increases in physician visits for preventive care, acute conditions, and increases in the number of nights hospitalized.[36] Another study of adults newly insured through Oregon's Medicaid expansion found that new enrollees used health care services most intensively in their initial month of eligibility as compared to their average monthly utilization over their eligibility period.[37] Approximately 50% of new adult enrollees used some health services during their first month of eligibility.

A study of new HMO enrollees compared those who were previously uninsured to those who were previously insured; the study found more outpatient and specialty visits in the first year after enrollment among the previously uninsured group.[38] Approximately half of the increase in outpatient visits among the previously uninsured was attributed to their poorer self-perceived health status.

Other research also suggests that increases in utilization following receipt of coverage are greatest among those with poorer health status.[39] In a study of newly insured persons in Duluth, Minnesota, nearly half (47%) required and received treatment for chronic illness after enrolling in a health plan. The cost of caring for the previously uninsured was 15% higher than the cost of caring for a comparable insured group. This difference was attributed to the greater number of prescription drugs required to manage and treat the chronic conditions of the previously uninsured group.[39]

Findings on pent-up demand among newly insured adults are not consistent across studies. In contrast to the research discussed above, a study of health care utilization among newly insured enrollees in two state-sponsored health plans did not find increased utilization among new enrollees in the early months following enrollment.[3] The two state-sponsored health plans, the Washington Basic Health Plan that targeted low-income uninsured persons and the MaineCare plan that targeted uninsured small business employees, did not see any significant differences in medical visit rates among new enrollees across three six-month periods of observation. This suggests that new enrollees did not have pent-up demand and subsequent need for catch-up medical treatment.[3]

In summary, there is some debate in the literature as to whether pent-up demand for services exists among the newly insured. While some research indicates no evidence of pent-up demand,[3] a few studies have found that previously uninsured children and adults have greater utilization of health care in the early months following receipt of health coverage.[34-39] These findings of pent-up demand were particularly pronounced among the newly insured who had been without coverage for extended periods of time and those with chronic conditions.[34,35,39] As a result, the costs of caring for these two segments of the newly insured population may be higher.

- ***The newly insured use health care more appropriately and efficiently than they did when they were uninsured.***

While receipt of coverage may lead to increased health care utilization, numerous studies suggest that the increased utilization does not represent excessive use of services but rather more appropriate and efficient utilization of health care. Several studies have documented that once insured, previously uninsured individuals increase their utilization of outpatient preventive services

and decrease their utilization of emergency department and inpatient services. [25, 36-42]

For example, a study of newly insured children in Kansas' CHIP program showed an increase in the number of physician visits and a decrease in the number of children reporting the emergency department as their usual source of care.[25] Similarly, a study of CHIP enrollees in Pennsylvania found an increase in the proportion of children reporting physician visits and a decrease in self-reported emergency department visits. [36] And, an evaluation of expansions of the Child Health Plus in upstate New York revealed that increases in overall program expenditures could primarily be attributed to increased use of primary care services, such as well-child visits, as opposed to expensive emergency and inpatient care.[4240]

Newly insured adults have also been shown to increase their use of preventive medical services. [38] National survey data suggests that previously uninsured adults who obtained Medicaid coverage showed an increase in their annual number of preventive health care visits. Another study of newly insured adults found that those with chronic conditions showed increases in the number of prescriptions used to manage their illnesses.[41] Increased use of primary care services and improved management of chronic conditions with prescription medications can prevent the advancement of disease and the need for more high-intensity and high-cost treatments.

Ultimately, the increase in the use of preventive services by the previously uninsured may result in cost-savings. Uninsured patients have been found to have emergent hospitalizations almost twice as often as insured patients and have a rate of avoidable admissions that is three times that of insured patients. [20] To the extent that health coverage improves access to timely and appropriate primary care services, health insurance may decrease the previously uninsured's use of high cost inpatient services. And in fact, recent research by Dafny and Gruber (2005) at the National Bureau of Economic Research suggests that the provision of coverage through Medicaid expansions during 1983-1996 led to a significant decline in avoidable hospitalizations among children. [22]

Overall, the increased primary care use and decreased emergency department visits by newly insured children and adults' represent more appropriate and efficient use of health care services, which may result in cost savings in the long term. For example, a recent study in Minnesota estimated that increases in enrollment in a state-subsidized health insurance program for the working poor

(i.e., MinnesotaCare) resulted in a five-year cumulative statewide savings of $58.6 million in hospitals' uncompensated care. [41]

- ***Health care utilization varies by race and health insurance status.***

Research suggests that access to health insurance impacts health care utilization differently depending on race. Using data from the National Longitudinal Survey of Youth, Currie and Thomas (1995) found that having private or public health coverage is associated with an increase in the number of doctor visits for illness among white children.[42] However, for Black children, neither private nor public coverage is associated with any increase in doctor visits for illness. Furthermore, Black children with private coverage were no more likely than uninsured Black children to have doctor checkups.

Another study found that the effect of health insurance on utilization varied not only by race but by health status as well. Following Medicaid expansions, poor Black and Hispanic children in good, fair or poor health experienced greater increases in the probability of a doctor visit than poor white children. [43] Among children in excellent or very good health, significant increases in doctor visits were found only among Hispanic children.

There is evidence that health insurance also has a differential effect on the health care utilization of adults by race.[44] Using data from a sample of non-elderly insured adults (ages 19-64) in the Community Tracking Study, Fiscella et al (2002) found differences in health care utilization across races. More specifically, insured Hispanic adults had fewer physician visits, mental health visits, mammography, and influenza vaccinations than insured whites. Study findings suggest that a lack of English fluency is the primary contributor to this disparity. Insured Black adults were also found to have lower medical care utilization than whites. Blacks had significantly lower likelihood of a mental health visit or influenza vaccine than white insured adults. This Black/white disparity was not explained by differences in demographics, health status, or health coverage status.[44]

Overall, these studies suggest that health insurance affects health care utilization differently across races. Furthermore, while health insurance may break down some of the barriers to care experienced by minorities, it is not the only factor driving racial and ethnic disparities in health care.

- ***There is little evidence that public program expansions lead to adverse selection.***

Many studies suggest that in the long-run, the utilization of the newly insured is comparable to the insured. [,35,45,46] While a few studies suggest that newly insured individuals use health care services at a disproportionately higher rate, most studies find that this difference exists only in the early months following enrollment and that within a year, the newly insured's health care utilization is comparable to the long-term insured.

An evaluation of an Arkansas school-based initiative that provided health insurance to children in rural areas, found that although the use of health services among newly insured children increased over time, their utilization rates were comparable to children who had had coverage for a long time.[45] Another study found that the average annual number of physician visits among newly insured children was slightly lower than that of insured children.[41] These studies suggest that uninsured children pose no greater risk to insurers than already insured children.

Research with adults also indicates that the newly insured's health care utilization is comparable to the long-term insured. Previously uninsured adults who obtained coverage through the Washington Basic Health Plan and MaineCare programs used health care services at a rate that was similar to enrollees who received coverage through a large employer health plan.[3] Another study found the health care expenditures for enrollees in the Washington Basic Health Plan were comparable to state employees.[46]

In summary, providing coverage to previously uninsured children and adults may increase their utilization in the short-term, but their overall utilization is not likely to surpass their long-term insured counterparts.

Policy Implications

The findings presented in this review of the literature suggest that while there are conflicting reports on the existence of pent-up demand among the uninsured, there is general agreement that greater health care utilization among newly enrolled previously uninsured individuals lasts only for a short time. In the long run, utilization among the previously uninsured and the long-term insured is comparable.

There is some evidence that previously uninsured persons who have chronic conditions and those who have been without coverage for over a year are the most likely to have pent-up need for health care and will be the most costly segment of the newly insured population to treat.[3, 34, 35] However, research also indicates that the receipt of coverage fosters more appropriate and efficient use of health care. [25,35,39-42] The newly insured increase their use of preventive care and decrease their use of emergency department services. Those with chronic conditions receive better disease management through more timely and appropriate outpatient treatment. These changes in service use among the previously uninsured may not only lead to better health outcomes but also a reduction in costly avoidable hospitalizations.[22] Recent findings from a study in Minnesota indicate that expansions in coverage led to a significant decline in hospitals' levels of uncompensated care.[41]

When trying to predict how expensive new enrollees into the Arizona Healthcare Group will be, analysts should consider how many enrollees have chronic conditions and how many have been without coverage for multiple years. These individuals are the most likely to have pent-up demand for services and will likely be more costly to treat.

When modeling costs of AHG's new programs, analysts should also consider how many racial and ethnic minorities will enroll. While access to health insurance has been shown to improve racial and ethnic minorities' access to health care, the lower rates of utilization in comparison to whites has been shown to persist after receipt of coverage. [43] This suggests that health insurance, while important for access to services, is merely one of many factors that contribute to racial and ethnic disparities in health care utilization and will not likely raise their utilization rates to be comparable to whites.

Analysts modeling the costs of AHG program expansions should also consider how plan characteristics would affect new enrollees' utilization. As demonstrated in the RAND Health Insurance Experiment, the amount of cost-sharing will also impact enrollees' utilization. [47]

In conclusion, several studies that have examined the utilization patterns of those transitioning from being uninsured to having coverage confirm that health care dollars are used more efficiently as a result of increased access to preventive care and less subsequent need for emergency services. Providing coverage to previously uninsured individuals may increase their utilization in the short-term,

but their overall utilization has not been shown to surpass the utilization of their long-term insured counterparts.

References

[1] United States Census Bureau. 1996-2003. Current Population Survey. Annual Social and Economic Supplement.

[2] Gencarelli, D.M. 2005. *Health insurance coverage for small employers*. National Health Policy Forum Background Paper. Washington DC: George Washington University.

[3] Kilbreth E.H., Coburn A.F., McGuire C., Martin D.P., Diehr P., et al. 1988. "State-sponsored programs for the uninsured: is there adverse selection?" *Inquiry* 35(3): 250-65.

[4] Brown, M.E., Bindman, A.B., and N. Lurie. 1998. "Monitoring the Consequences of Uninsurance: A Review of Methodologies." *Medical Care Research and Review* 55(2): 177-210.

[5] Long S.H. and M.S. Marquis. 1994. "The Uninsured 'Access Gap' and the Cost of Universal Coverage." *Health Affairs* 13(2):211-20.

[6] Hafner-Eaton, C. 1994. "Patterns of Hospital and Physician Utilization among the Uninsured." *Journal of Health Care for the Poor and Underserved* 5:297-315.

[7] Monheit, A.C., Hagan, M.M., Berk, M.L., and P.J. Farley. 1985. "The Employed Uninsured and the Role of Public Policy." *Inquiry* 22(Winter): 348-64.

[8] Kirkman-Liff, B., and J.J. Kronenfeld. 1992. Áccess to Cancer Screening Services for Women." *American Journal of Public Health* 82(May): 733-35.

[9] Short, P.F. and D.C.Lefkowitz. 1992. "Encouraging Preventive Services for Low Income Children. The Effect of Expanding Medicaid." *Medical Care* 30(October): 766-80.

[10] Stoddard, J.J., St. Peter, R.F., and P.W. Newacheck. 1994. "Health Insurance Status and Ambulatory Care for Children." *New England Journal of Medicine* 330(May 19): 1421-25.

[11] Newacheck, P.W., Hughes, D.C., and J.J. Stoddard. 1996. "Children's Access to Primary Care: Differences by Race, Income, and Insurance Status." *Pediatrics* 97(1): 26-32.

[12] Himmelstein, D.U. and S. Woolhandler. 1995. "Care Denied: U.S. Residents Who Are Unable to Obtain Needed Medical Services." *American Journal of Public Health* 85(March): 341-44.

[13] Saver, BG. and N. Peterfreund. "Insurance, Income, and Access to Ambulatory Care in King County, Washington." 1993. *American Journal of Public Health*. 83(11): 1583-8.

[14] Ayanian, JZ., Kohler, B.A., Abe, T., and A.M. Epstein. 1993. "The Relation Between Health Insurance Coverage and Clinical Outcomes among Women with Breast Cancer." *New England Journal of Medicine* 329(5):326-31.

[15] Davidoff, A. and G. M. Kenney. 2005. "Uninsured Americans with Chronic Health Conditions: Key Findings from the National Health Interview Survey." Washington, D.C.: The Urban Institute. Available at http://covertheuninsuredweek.org/media/research/Urban2005.pdf

[16] Weissman, J.S., Stern, R., Fielding, S.L., and A.M., Epstein. 1991."Delayed Access to Health Care: Risk Factors, Reasons and Consequences." *Annals of Internal Medicine* 114 (February 15): 325-31.

[17] Kerr E.A. and A.L. Siu. 1993. "Follow-Up After Hospital Discharge: Does Insurance Make a Difference?" *Journal of Health Care for the Poor & Underserved*. 4(2):133-42.

[18] Freeman, H.E., Aiken, L.H., Blendon, R.J., and C.R. Corey. 1990. "Uninsured Working-Age Adults: Characteristics and Consequences." *Health Services Research* 28 (December): 531-41.

[19] Haas, J.S., and L. Goldman. 1994. "Acutely Injured Patients with Trauma in Massachusetts: Differences in Care and Mortality, by Insurance Status." *American Journal of Public Health* 84 (October): 1605-8.

[20] Billings J. and N. Teicholz. 1990. "Uninsured Patients in District of Columbia Hospitals." *Health Affairs*. 9(4):158-65.

[21] Weissman J.S., Gatsonis, C., and A.M. Epstein. 1992. "Rates of Avoidable Hospitalization by Insurance Status in Massachusetts and Maryland." *Journal of the American Medical Association* 268(17):2388-94.

[22] Dafny, L. and J. Gruber. 2005. "Public Insurance and Child Hospitalizations: Access and Efficiency Effects." *Journal of Public Economics*, 89(1): 109-29.

[23] Bermudez, D. and L. Baker. "Relationship Between SCHIP Enrollment and Hospitalization for Ambulatory Care Sensitive Conditions in California." *Journal of Health Care for the Poor and Underserved* 16(1): 96-110.

[24] Kasper J.D., Giovannini, T.A., and C. Hoffman. 2000. "Gaining and Losing Health Insurance: Strengthening the Evidence for Effects on Access to Care and Health Outcomes." *Medical Care Research and Review* 57(3):298-318.

[25] Fox M.H., Moore J., Davis R., and R. Heintzelman. "Changes in Reported Health Status and Unmet Need for Children Enrolling in the Kansas Children's Health Insurance Program." *American Journal of Public Health* 93(4):579-82.
[26] Franks, P., Clancy, C.M., and M.R. Gold. 1993. "Health Insurance and Mortality : Evidence from a National Cohort." *Journal of the American Medical Association* 270 (August 11): 737-41.
[27] Patrick, D.L., Madden, C.W., Diehr, P., Martin, D.P., Cheadle, A., and S.M. Skillman. 1992. "Health Status and Use of Services among Families with and without health insurance." *Medical Care* 30 (October): 941-9.
[28] Short, P.F. and T.J. Lair 1995. "Health Insurance and Health Status: Implications for Financing Health Care Reform." *Inquiry* 31 (Winter): 425-37.
[29] Baker, D.W., Sudano, J.J., Albert, J.M., Borawski, E.A., and A. Dor. 2002. "Loss of Health Insurance and the Risk for a Decline in Self-Reported Health and Physical Functioning." *Medical Care* 40(11): 1136-1131.
[30] Berg, J., Ross, R., and H.B. Latourett. 1977. "Economic Status and Survival of Cancer Patients." *Cancer* 39: 467-77.
[31] Ayanian, J.Z., Kohler, B.A., Abe, T., and A.M. Epstein. 1993. "The Relation Between Health Insurance Coverage and Clinical Outcomes among Women with Breast Cancer." *New England Journal of Medicine.* 329: 326-31.
[32] Hadley, J., Steinberg, E.P., and J. Feder. 1991. "Comparison of Uninsured and Privately Insured Hospital Patients: Condition on Admission, Resource Use, and Outcome". *Journal of the American Medical Association* 265: 374-79.
[33] Chyongchiou, J., and J.R. Lave. 1998. "Duration in and patterns of utilization under children's health insurance programs." *Health Care Financing Review* 19(4):101-16.
[34] Lave, J., Keane, C.R., Lin, C.J., Ricci.,E.M., Amerbach, G., et al. 1998. "Impact of a Children's Health Insurane Program on Newly Enrolled Children." *Journal of the American Medical Association* 279(22): 1820-5.
[35] Eisert, S., and P.Gabow. 2002. "Effect of Child Health Insurance Plan Enrollment on the Utilization of Health Care Services by Children Using a Public Safety Net System." *Pediatrics* 110(5): 940-5.
[36] Hahn, B. 1994. "Health Care Utilization: the Effect of Extending Insurance to Adults on Medicaid or Uninsured." *Medical Care* 32(3): 227-39.
[37] Haber, S.G. (2000). "Covering Uninsured Adults through Medicaid: Lessons from the Oregon Health Plan." *Health Care Financing Review.*
[38] Bograd H., Ritzwoller, D.P., Calonge, N., Shields, K., and M. Hanrahan. 1997. "Extending Health Maintenance Organization Insurance to the Uninsured. A Controlled Measure of Health Care Utilization." *JAMA* 277(13):1067-72.
[39] Elliot B., Renier, C., Vecchi, L., and T.C. Clark. 1995. "Health Care for the Uninsured in Duluth." *Minnesota Medicine* 78(3):25-9.
[40] Zwanziger, J., Mukamel, D.B., Szilagyi, P.G., Trafton, S., Holl, J.L., et al. 2000. "Evaluating Child Health Plus in Upstate New York: How Much Does Providing Health Insurance to Uninsured Children Increase Health Care Costs?"*Pediatrics* 105 (3 Suppl): 728-32.
[41] Blewett, Lynn A., Gestur Davidson, Margaret E. Brown, and Roland Maude-Griffin. 2003. "Hospital Provision of Uncompensated Care and Public Program Enrollment." *Medical Care Research and Review* 60 (4), 509-52
[42] Currie, J., and D. Thomas. 1995. "Medical Care for Children: Public Insurance, Private Insurance, and Racial Differences in Utilization." *Journal of Human Resources* 30(1): 135-62.
[43] Racine, A.D., Kaestner, R., Joyce, T.J., and G.J. Colman. 2001. "Differential Impact of Recent Medicaid Expansions by Race and Ethnicity. *Pediatrics* 108(5): 1135-42.
[44] Fiscella, K., Franks, P., Doescher, M.P., and B.G. Saver. 2001. "Disparities in Health Care by Race, Ethnicity, and Language among the Insured; Findings from a National Sample." *Medical Care* 40(1): 52-59.
[45] Tilford J.M., Robbins, J.M., Shema, S.J., and F.L. Farmer. 1999 "Response to Health Insurance by Previously Uninsured Rural Children." *Health Services Research* 34(3):761-75.
[46] Martin, D.P., Diehr, P., Cheadle, A., Madden, C.W., Patrick, D.L., and S.M. Skillman. 1997. "Health Care Utilization for the 'Newly Insured': Results from the Washington Basic Health Plan. *Inquiry* 34:129-42.

[47] Manning, W.G., Newhouse, J.P., Duan, N., et al. 1987. "Health Insurance and the Demand for Medical Care: Evidence from a Randomized Experiment." *American Economic Review* 77(3): 251-77.

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